Author’s response to reviews

Title: VALUE PLURALISM IN RESEARCH INTEGRITY

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Author’s response to reviews:

We have attached the replies to the referees in a separate file.

Reviewer #1

This is an engaging, informative and challenging work. It contributes order to a field that it is otherwise wanting. Its conclusions and recommendations are generally well-grounded.

The work is also clearly presented and most readable. I fell over only a couple of minor presentational errors, which will be picked up, I'm confident, in proof-reading.

I am not convinced of the veracity or the utility of the distinction between norms, values and virtues, so would challenge the importance that the authors place on the distinction. These three normative categories can readily be shown to be interchangeable in codes of conduct, as elsewhere. However, since that distinction is of no importance to the main argument developed on incommensurability, I don’t see that it needs to be re-visited, unless the authors chose to do so. It stands in the work as a nice piece of analysis, in any event.

We’ve now elaborated on page 12 why the distinction matters and we have given a few examples to illustrate this claim:

Appreciating this matters for reasons of analytical clarity, but arguably also has practical import. First, in so far as codes emphasize norms, their implementation and use might promote rule-following and communication about procedures, protocols, etc. An emphasis on virtues, on the other hand, more easily translates to things like mentoring, character-building, and interventions to create a culture of research integrity. Second, failing to appreciate the differences between
values, norms, and virtues can lead to confusion in assessing behavior in the light of a code of conduct. For example, one cannot properly compare the value of truth with a specific intellectual character trait, such as intellectual thoroughness. And one cannot compare an intellectual character trait like open-mindedness with specific norms, such as ‘take the well-being of animals into consideration’, because they are radically different sorts of things.

It is a valuable piece of work that will, I believe, be accessible in its present form to interested scholars and researchers concerned with research integrity.

Reviewer #2

This is useful discussion of value pluralism in codes for the conduct of research. The authors describe the types of pluralism that can occur and illustrate them with reference to a set of codes selected for diversity (geography, age, origin). The paper makes important contribution to the literature. I have a few comments.

We thank the referee for his/her positive assessment of the paper. Below, we reply to the worries that s/he raises.

1. The authors explain why the codes were selected but they fail to include The Singapore Statement on Research Integrity, a well-known international research ethics code. They should include it or explain why it was not included.

We have included note 3 to explain this:

We have intentionally not included the Singapore Statement on Research Integrity. This is because it is not itself a code of conduct but (successfully) serves as an international framework in which national codes can be developed. It does not specify standards or norms but only contains more abstract values and virtues.

2. The authors did not include codes from specific research professions (e.g. chemistry, physics, anthropology). There is also value-pluralism to be found here based on the different subject matters. The authors should discuss why these sorts of codes were not included or discuss the relationship between these codes and more general codes.

This is a good suggestion, but it was impossible to incorporate in the present manuscript. The same note now makes it explicit that disciplinary codes fall outside the scope of our project:
We aim at the level of national codes that have the ambition to cover all disciplinary fields. There are many more detailed codes for specific disciplines. However, an analysis of value pluralism in these disciplinary codes falls outside the scope of our article.

3. The authors should consider including and discussing the following reference as it is relevant to their work: Moffatt B. Scientific authorship, pluralism, and practice. Account Res. 2018;25(4):199-211.

We thank the referee for this helpful suggestion. We’ve taken it into account in note 12:

These are two ways in which value pluralism is inevitable. This is not to deny that there might be further ways in which value pluralism is necessary. Moffatt (2018) argues that there may be multiple but equally valid ways of knowing and multiple but equally valid accounts of scientific authorship. While this doesn’t quite establish that there are irreducibly different values behind these different ways of knowing and accounts of authorship, Moffatt’s claims might be seen as congenial to the sort of pluralism we defend here.

4. The authors state that they are not trying to provide a foundation for the ethics codes but they should consider mentioning that some have tried to do this, such as: Resnik DB. The Ethics of Science, Routledge, 1998; Shamoo AE, Resnik DB, Responsible Conduct of Research, 3rd ed., Oxford, 2015; Shrader-Frechette KS, Ethics of Science, Rowman and Littlefield, 1994; De Winter J, Interests and the Epistemic Integrity of Science, Lexington Books, 2016.

The referee is right that we do not aim to do this. We’ve made this explicit and refer to others who have done so on p.3:

We do not aim to defend any particular set of values or norms that can provide a normative foundation for existing codes of research integrity. Rather, we argue that any such foundation must be pluralistic because value pluralism in research integrity is inevitable.

2 See Resnik 1998; Shamoo and Resnik 2015; Shrader-Frechette 1994; De Winter 2016 for this.

5. The paper combines analytical and empirical methods. The authors should be clear about the role of the codes they examine the paper (I take it the codes are there to illustrate their conceptual points not as empirical evidence for them). If the authors are not clear about their use of codes in their argument a social scientist could fault them for failing to follow proper methods for doing qualitative research. For example, one could develop a classification system for performing a content analysis of different codes. The classification system (or framework) would be used to "code" the codes. For a paper that does this, see Resnik DB,
This is helpful. We indeed refer to the codes we selected only to illustrate our conceptual points. We did not aim at a qualitative empirical approach and agree that if we had, we should have outlined a detailed study proposal and a classification system first. We now mention this explicitly:

Our study is primarily conceptual, and not qualitative empirical. Hence, we refer to the codes we selected to illustrate our conceptual points. (p.3)

1 For an example of that, see Resnik, Rasmussen, Kissling 2015.

Reviewer #3

This is a helpful paper that foregrounds a number of challenges confronting both those who seek to write codes of conduct and those who wish to follow them. I believe the paper should be published, but I think there are still things to do that would strengthen it.

We thank the referee for his/her positive assessment of the paper and for the many justified and astute questions and concerns s/he raised. We reply to them below.

3. It seems odd to me that the Introduction section follows the Background section. I would switch them, modifying the beginning of the Introduction slightly to reflect its new position. The Background section can be moved almost intact.

This is a helpful suggestion. The Introduction now precedes the Background section.

4. You call the pluralism you discuss "value pluralism", which either suggests that you can reduce all of the different "kinds of things one finds in codes of conduct" to the kind of thing you later call "values", or that you are using 'value' in 'value pluralism' differently than you do when you are talking about values as they appear in codes of conduct. The former conflicts with your metaphysical pluralism, which suggests to me that you are using the term 'value' ambiguously in this paper. I would encourage you to tighten this up. (Maybe refer to it up here as *axiological pluralism*?)

We understand the referee’s worry on this point. What we mean to do is focus on a plurality of values, because different kinds of values give rise to different kinds of norms and virtues. We now point this out expressis verbis at the outset of the paper (p. 3):
We will see that there is irreducible value pluralism in research integrity: there is a variety of different kinds of values underlying codes of conduct that cannot be reduced to each other and that give rise to a plurality of norms, some of which are either incommensurable or in conflict with each other, and to a plurality of virtues. Thus, when we refer to ‘value pluralism’, we focus primarily on the plurality of values that underlies research codes, but also mean to include the plurality of norms and virtues that this plurality of values gives rise (below, we shall see in more detail exactly how values relate to norms and virtues).

5. It would be good to link to the codes of conduct you utilize so that the reader can review them quickly.

An unfortunate oversight on our part! Hyperlinks are now included.

7. The conception of *values* that is operative in §2 is unclear to me. The sugar content in honey makes it desirable. Does that mean the property of having that sugar content is a value? Or that the way that person's features are arrayed on their face makes them have great worth (say, as a model) - does that mean that the property of having features arrayed in that way is a value? Also - to say that values are universals suggests that they are good-making properties that are *universally* good-making, but surely there are many things that are regarded as values that are historically and culturally bound. Why not make values explicitly relative to people, e.g., that something is a value if it is a property of a thing that explains why (some) people prefer that thing over others? Or perhaps that explains why (some) people regard that thing as important?

These questions are very good, but they open up a can of philosophical worms. Whether or not all values are relative to people’s desires, preferences, and tastes is a huge philosophical question, that we cannot hope to address meaningfully in this manuscript. The characterization we have provided, to wit that values are ‘good-making properties of actions, events, objects, or persons’ is intentionally neutral on whether or not values are people-relative. Good-making might have to do with satisfying (some) people’s preferences, but it can also be something more human-independent.

So, indeed, honey’s having a certain sugar content, or a human face having certain good-looking features are valuable and are, in this sense, values of honey and faces. At the same time, they are very specific and therefore not that interesting to focus on. The sort of values that matter for research integrity in general (or epistemology, ethics, politics, etc.) are much more abstract and instantiated much more widely.

Perhaps there’s a slight misunderstanding involved, too. We say values are ‘universals’. As we’re sure the referee will be aware, ‘universal’ is a technical philosophical term for the
metaphysical category of something that can be shared / had by many different concrete objects and things (see for instance here for elaboration.) The term thus doesn’t imply that values are properties that are, as the referee says, “*universally* good-making”, just that they make *some* things which have them good.

With the referee’s permission, then, we would prefer to leave the text as it is here, because addressing questions about the relativity of values, their exact metaphysical status, etc. would quickly take us very deep into philosophical waters. And, if we were to do so, equal treatment would demand that we do the same for virtues, norms, and the other categories we talk about – since the same questions arise for those. We worry that this would put readers off.

10-11. Actually, 'respect' shows up on the values list (viz., the Australian code, p. 7) and the virtues list. It seems to me that *good stewardship* could be a value - it is something that, say, a community might value in their leaders, or in a natural resource agency. In fact, it seems like if values and virtues come apart, it is in the other direction. For any virtue, it will likely be that there are people who value that quality in other people, therefore making it also a value. But there will be things people value that aren't virtues, e.g., valuing flammability in a piece of firewood.

The referee is right to observe that virtues will always come out as values in the way we’ve defined them. We’ve added note 8 making that conceptual connection explicit.

But it is worth pointing out that, since virtues are defined as qualities that make a person excellent, they will always be good-making features of a person and hence, in that sense, also values.

We’d rather not make any further general (and potentially controversial) claims about the fundamentality of either virtues or values or about their general relationship.

12. The last paragraph in §2 is opaque. Could you elaborate it a bit more? Why does *concreteness* help us better understand the epistemic/moral/legal/social/professional distinction?

We now explain in more detail why we think it is particularly helpful to focus on norms rather than values or virtues on p.13:

In what follows, we shall focus on norms. This is because they are more concrete: they prescribe or prohibit specific behavior. As a result of that, potential conflict, tension, or incommensurability between them is more perspicuous than with the more abstract and vague
categories of values and virtues. This makes norms highly suited to bring out a second kind of pluralism in codes of conduct, stemming from different categories of values, virtues, and norms.

12. At the beginning of §3 you say that the five categories of norms, but above (p. 6, end of Intro), you say that "these things" can be classified into five categories, where "these things" refers also to values and virtues. Does the five-part axiological distinction apply to more things than just norms? If so, you should indicate that here and perhaps adumbrate how this distinction manifests in connection with those other metaphysical categories.

We focus on norms, as this seemed most perspicuous (see previous point). We’ve made this clearer by changing ‘these things’ into ‘norms’.

Having said this, however, at least some of the axiological categories also apply to values and virtues. There are moral and intellectual virtues, and arguably professional virtues as well. It’s less clear that there are distinctly legal or social virtues. It seems pretty plausible to us that values do come in all five categories, if only because we take norms to follow from more general values.

A satisfactory discussion of all this would mean adding a whole new section to the paper with a (potentially rather boring) systematic analysis of how our axiological categories interact with the metaphysical ones. Since this isn’t necessary to establish our main point (for that, it suffices if we find axiological pluralism in codes of conduct), we’ve refrained from doing so. We have, however, added note 9:

Attentive readers might wonder whether virtues, values, and norms all come in the five categories identified here. As this section will show, we think this is certainly the case for values and norms, but less clearly so for virtues. While philosophers commonly distinguish between moral and epistemic (or intellectual) virtues and sometimes talk about professional virtues, we are not aware of any work on social or legal virtues.

16. The meta-norm strikes me as a social norm, where the social group in question is the research team. One could argue that the "wellbeing and flourishing" of a research team depends on the collective commitment to upholding the norms of research integrity.

We understand the attempt to categorize the meta-norm. It seems to us, though, that an equally good case can be made for including the meta-norm under one or more other categories, see the new note 10:

One might think that this meta-norm is a social norm where the research group is the social group. It seems, for instance, that the wellbeing and flourishing of a research team depends on
the collective commitment of the members of the group to uphold the norms of research integrity. This seems right, but one could make a similar point for the other categories. Collective commitment to the norms of research integrity also contributes to the epistemic goals of knowledge and understanding (and is thus also an epistemic norm), it contributes to the wellbeing and flourishing of animals, humans, and the environment (and it is thus also a moral norm), and it is implicit in the commitment to each of those norms that one is also committed to their conjunction (and it is thus also a professional and legal norm).

18. At the beginning of §4, you seem to distinguish clearly between *incommensurability* and *conflict*, but at the top of this page you discuss your first example of incommensurability in terms of conflict. If they are incommensurable, do they really conflict? Aren't they just "apples and oranges", so to speak?

Hopefully the newly added paragraphs on pp. 19-20 (reproduced here on the next page below) take care of this concern. But to clarify this particular point briefly: the referee is right that if two values are incommensurable they cannot conflict, properly speaking. However, it is quite possible for incommensurable values to give rise to rules or norms that pull in different directions and that lead to conflicting prescriptions for how to act. Strictly speaking, then, the conflict arises at the level of norms. Loosely speaking, however, we may have slipped into writing that there was a conflict between incommensurable values this way. We have removed such potentially loose talk in the revised manuscript.

18. The professional norms you list do not "tell us *not*" to "disclose as much as possible". In fact, I don't really see any substantive difference between the epistemic and professional norms you quote in terms of their commitment to open disclosure. The first norm in each set urges an openness that is constrained by reasonable considerations. These examples do not bear out what you claim on line 34.

18. You assert that the epistemic and professional norms do not "map onto one common scale", but you do not argue for this. To my eye, all of the bullets on this page (i.e., the professional norms) and the previous page (i.e., the epistemic norms) seem fully commensurable, so I must be missing something. A detailed argument that shows the incommensurability would go a long way to making this more clear to me.

19. That norms "pull in different directions" is not sufficient to establish incommensurability. And must there be a *uniquely* correct way to balance the two for them to be commensurable?
Here again, a more detailed argument that draws on the details of specific incommensurable norms is needed to establish your conclusion.

In response to all three the above comments: Upon revisiting these passages, we agree that they were wanting in crucial respects. The referee is right that the norms as they are formulated are compatible, because they already contain clauses allowing for exceptions. We’ve made that point explicit and added an explanation that the tension arises when we consider things from a purely epistemic or professional/legal perspective.

The referee is also right that we didn’t provide much by way of an argument for incommensurability; we mostly left things to the readers’ intuitive grasp. To fix this, we’ve added a paragraph that offers explicit considerations in favor of thinking that the epistemic value of openness and the professional value of honoring agreements are indeed incommensurable. At the same time, it is difficult to see what a fully explicit and rigorous argument for incommensurability of two values could look like, so we do appeal to our readers’ intuitive apprehension of this point.

Commensurability indeed might not require that there is a uniquely correct general way to balance two norms. We want to be non-committal on this point. Our point was supposed to go the other way around: in cases of incommensurability, one must make judgment calls and these allow for different but equally reasonable decisions.

Here are the two new paragraphs we added on pp. 19–20 in full:

From a purely epistemic perspective, disclosing everything, complete openness, and full transparency would be optimal, as it would produce more and more widely shared knowledge. From a purely professional (and legal) perspective, on the other hand, it is arguably paramount to respect agreements, mutual expectations, and contracts, no matter how much non-disclosure and secrecy they entail. So epistemic norms and professional norms pull in different directions here. It should be noted that the formulations of the specific norms above already have qualifications built into them to navigate tensions between openness and closedness, between sharing and not-sharing: e.g., ‘as open as possible’, ‘as closed as necessary’, and work is to be made available ‘unless otherwise agreed’. This reinforces our earlier point that the concrete norms in codes of conduct often cannot be placed in one of our five categories exclusively.

The important point for now is that it is difficult to adjudicate the tension between openness and non-disclosure because it derives from two incommensurable values underlying these norms. It is unclear how one can compare the epistemic value of openness with the professional/legal value of honoring agreements and contracts. Or, better, it seems that they cannot be compared at all. To see this, ask yourself how one might go about making a principled argument that, say, openness is more important than respecting a non-sharing clause in an agreement with a sponsor. It’s not as if we have a measuring stick to determine and compare the
worth of openness and that of secrecy, nor is there a more general value or perspective under which both might be subsumed.

We’ve added a similar clarification to the 2nd example (pp. 20–21):

As in the previous example, the norms themselves employ guarded language and contain qualifiers, but it should be clear that the values underlying them (innovativeness and something like effectiveness and efficiency) pull in different directions. This is another instance of incommensurability: how does the value of adding innovative true beliefs compare to that of running a research project efficiently and effectively? It seems there is no more general value under which both of these could be subsumed to determine their comparative importance.

20. You say at the beginning of §5 that conflicting norms in a single category present a "second type of axiological pluralism", but that strikes me as an odd way to put it. Initially, you argue that axiological pluralism is grounded in the five types of norms - you need to be a pluralist about these because they are not reducible. Incommensurability across these categories (and perhaps also within them?) and irresolvable conflict within them are different reasons why one must be a pluralist, but do they really correspond to types of pluralism? Perhaps so, but there appear to be at least three different things at work in the axiological discussion that could be clarified from my perspective: the five categories, incommensurability as an argument for irreducibility, and irresolvable conflict as an argument for irreducibility.

The referee is right: the locution ‘second type of axiological pluralism’ was infelicitous. The introduction of (what is now) section 6 now reads:

Let us now turn to conflicting norms within one category. Norms and values within a single category may or may not be incommensurable13, but they can nonetheless pull in different directions and lead to conflicting prescriptions for how to act. This presents another dimension of axiological pluralism.

…

13 There are longstanding debates about this in both ethics and epistemology. Some consequentialists in ethics, for example, maintain that only pleasure is valuable (classically Bentham 1961 [1789]), while others recognize multiple values, some of which are thought incommensurable (Chang 1997). In epistemology, some think truth is the only value (DePaul 2001), while others plump for value pluralism (Alston 2005; Elgin 2014).
21. I don't understand how the third bullet works to help us avoid false belief? Your note references the first two bullets here (viz., negative results and bias), but not the third bullet. Maybe just elide it?

Agreed; we’ve removed the third item from the list.

24. I’m a pluralist, so I don’t think you need to *overcome* it. Why not see pluralism as a good thing - as a reflection of the complex normative landscape of scientific practice? If anything, this is a reason to embrace it. Anything monistic would be too simple to do justice to this complexity.

This is a fair point. We’re obviously pluralists ourselves, too. But those readers who aren’t already card-carrying pluralists might remain unconvinced by our paper unless we explicitly discuss some attempts to get rid of pluralism. To address this point, however, we now motivate the project of exploring whether the plurality can be overcome as follows (p.26):

At this point one might wonder if the kinds of pluralism we have identified can be overcome. In other words, can we reduce certain norms to others (and mutatis mutandis the same for values and virtues)? A prior question, however, is why we would even want to overcome pluralism. What is wrong with it? After all, the normative scientific landscape that includes different kinds of values, norms, and virtues might simply be (highly) complex. We agree, and we will end up arguing that pluralism is inevitable. But that doesn’t mean it isn’t useful to explore attempts to overcome pluralism. In general, simplicity is an important desideratum for scientific and philosophical theories, so it is worth exploring whether it can be had here. Simplicity is also desirable for practical reasons: if we could overcome pluralism, it would be easier to rank various kinds of integrity breaches and to assign proper sanctions. Moreover, seeing how attempts to overcome pluralism fail can be instructive in appreciating the kind of pluralism we’re dealing with even better.

26. The point you make about values leading to norms seems to belie the claim you make above that norms and values must be regarded as different metaphysical categories. Here, though, you seem to be suggesting that values are more basic than norms and that perhaps norms could be reduced to them.

The tension is merely apparent. We think of values as general good-making features or properties of things. Norms, in contrast, are more or less general rules for how to act, prescriptions or prohibitions for behavior. Since properties are clearly a metaphysically different category than rules (no property tells anyone to do anything), this point seems solid.

Even so, it is correct that norms derive from values, in the following way: if we care about certain values, we will have a (defeasible) desire to realize them (or more of them).
Combined with beliefs about how we can realize (more of) certain values, this will lead to prescriptions or prohibitions of behavior.

27. What exactly does the recommendation of intellectual humility amount to? That we should be careful? Circumspect? Look for multiple different arguments for our conclusion? It would be helpful to learn more about how we should operationalize this in practice if we are to embrace it.

We’ve added a few lines to clarify what we had in mind (p. 29):

Because research integrity involves an irreducible plurality of sometimes incommensurable and conflicting norms of different kinds, one should assume that there will be multiple and equally reasonable ways of dealing with conflicts. Hence it is important to listen to others, to transcend one’s default viewpoint in order to consider the merits of other points of view.17

17 See Baehr (2011, Ch. 8) for a discussion of the intellectual virtue of openmindedness along these lines.

27. (2) in the conclusion seems to conflict with the second sentence in the last paragraph of the Introduction on p. 6.

We’ve added a clause ‘or combinations thereof’ to (2) to avoid the appearance of conflict and to acknowledge the earlier point that norms cannot always easily be pegged into one unique category.

A few general comments to conclude:

(1) It would be very helpful if more care were taken in how the terms 'value', 'norm', and 'virtue' were used in the article. There are a few places where it seems like we are supposed to infer reducibility, but that seems at odds with the metaphysical pluralism that is part of the view.

By making various changes in response to the comments above and going through the entire text again to ensure consistent use of terminology, we trust most of the potential confusion has been cleared up. See esp. the responses to the comments numbered 4, 7, 10-11, 12, 18 (first instance), 26.

(2) I wonder if it would help to include a table that perhaps gave examples of norms in each category? So a 3x5 table (norms/values/virtues X
epistemic/legal/social/moral/professional) with examples from the codes. Of course, if the 5-part distinction really does only apply to norms, this would not be appropriate. Alternatively, perhaps a table that represented the complex structure of axiological pluralism might be helpful. A more visual display of some of the results would help me.

We’ve thought long and hard about this suggestion, since the referee certainly is right that figures can often be helpful. However, we ultimately decided against it for the following reasons.

a. As we noted above (in reply to the comment labeled 12), it’s unclear that there are five categories of virtues. This means that a figure would have to leave virtues out and we’d have to explain this.

b. Since our focus in the 2nd part of the paper is on norms, a figure would have to introduce additional examples of values in all categories. Doing this properly would require more examples and more discussion and would thus lengthen the paper, while doing so isn’t necessary to establish the key conclusion about the inevitability of two kinds of pluralism.

c. If we were to create a figure with only examples of norms in the five different categories, we’d basically end up copying and pasting the examples from section 4. We’re unsure that this would really add anything useful.

(3) More time should be taken to set up the incommensurability vs. conflict sections at the end, and then more time should be taken in establishing incommensurability and conflict in each of the cases.

We have addressed this concern by adding new paragraphs on pp. 19-20 (in response to comments 18, 19 above), and smaller clarifications later in the relevant sections: pp. 20-21, 22, 23-24.

We agree that much more could be said to develop the notion of incommensurability in (technical) detail, but doing so would turn the paper into much more of a philosophical treatise that we thought would be appropriate for the present journal. By adding some references to technical philosophical literature (notes 12 and 14), interested readers can follow up for themselves.